

REMARKS

The Office Action dated July 26, 2005 has been received and carefully noted. The following remarks are submitted as a full and complete response thereto. Claims 1, 5, and 9 have been amended to improve clarity and antecedent support. No new matter has been added.

In accordance with the foregoing, no new matter is being presented, and approval and entry are respectfully requested.

Claims 1-12 are pending and under consideration.

REJECTION UNDER 35 U.S.C. § 102:

In the Office Action, at page 2, claims 1-12 are rejected under 35 U.S.C. § 102 as anticipated by U. S. Patent No. 5,852,607 to Chin ("Chin"). The Office Action takes the position that Chin describes all the recitations of independent claims 1, 5, and 9 and related dependent claims. This rejection is traversed and reconsideration is requested.

Independent claim 1, upon which claims 1-4 are dependent, recites a network switch for network communications. The network switch includes a first data port interface, said first data port interface supporting at least one data port transmitting and receiving data at a first data rate, a second data port interface, said second data port interface supporting at least one data port transmitting and receiving data at a second data rate, and a CPU interface, said CPU interface configured to communicate with a CPU.

The network switch also includes a memory management unit for communicating data from at least one of said first data port interface and said second data port interface and a memory, a communication channel, said communication channel for communicating data and messaging information between said first data port interface, said second data port interface, and said memory management unit, and a plurality of lookup tables, said lookup tables including an address resolution lookup table and a VLAN table. One of the first data port interface and said second data port interface is configured to determine forwarding information from a flexible length header for an incoming data packet received at a port of said one of said first data port interface and said second data port interface, and is configured to determine the forwarding information by shifting information field positions read from the flexible length header.

Independent claim 5, upon which claims 6-8 are dependent, recites a method of switching data in a network switch. The method includes receiving an incoming data packet at a first port of a switch, reading a first packet portion, less than a full packet length, to determine particular packet information, said particular packet information including a source address and a destination address, obtaining an egress port or egress ports based on said particular packet information, and sending the incoming data packet to the egress port or egress ports. The incoming data packet has a flexible length header, the first packet portion is read from the flexible length header and the particular packet information is read by shifting information field positions to account for the flexible length of the flexible length header.

Independent claim 9, upon which claims 10-12 are dependent, recites a network switch including means for receiving an incoming data packet at a first port of the switch, means for reading a first packet portion, less than a full packet length, and to determine particular packet information, said particular packet information including a source address and a destination address. The switch also includes means for obtaining an egress port or egress ports based on said particular packet information, and means for sending the incoming data packet to the egress port or egress ports. The incoming data packet has a flexible length header, the first packet portion is read by the means for reading from the flexible length header and the particular packet information is read by the means for reading by shifting information field positions to account for the flexible length of the flexible length header.

As will be discussed below, the cited prior art of Chin fails to disclose or suggest the elements of any of the presently pending claims.

Chin generally describes a switching fabric circuit 100 that includes eight ports 110a-110h and a switching link. See column 3, lines 62-67. The switching link 105 is coupled to each of the ports 110a-110h and provides a communications path so that each port 110 may share information with every other port. Chin includes a table addressing subsystem 320 including a hash table addressing mechanism 322, and a table control circuitry 324. See column 5, lines 28-47. The table control circuitry 324 enters the filter table 310 using an address that is produced by the addressing mechanism 322. The filter table is arranged as hash bins, or linked lists of locations. Each location includes

destination address information, a pointer to a next location on the list and packet routing information. The locations that are in the same hash bin, or part of the same linked list, each contain a destination address that maps to the same hash index I. The hash table addressing mechanism selects a hash bin by producing the address of the first location in the linked list. The table control circuitry then determines which of the linked filter table entries is the appropriate one. A filter table 310 consists of a set of overlaid look-up tables, one table for each VLAN.

Contrary to the contentions made in the Office Action, Chin fails to teach or suggest all the recitations of independent claims 1, 5, and 9. For instance, Chin is silent as to teaching or suggesting, “wherein one of said first data port interface and said second data port interface is configured to ... determine the forwarding information by shifting information field positions read from the flexible length header,” as recited in independent claim 1. Rather, Chin provides in a non-VLAN switch, the hash table addressing mechanism producing the table address by mathematically manipulating the 48-bit MAC address that is contained in the destination address field of a received frame. The mechanism manipulates the 48-bit MAC address in accordance with a hash function, to produce a 12-bit hash index, "I". It then takes the 1s complement of the index I and **shifts the result, to produce the table address that selects the appropriate hash bin,** as discussed in more detail below with reference to FIG. 4. Emphasis added. Thus, instead of determining forwarding information by shifting the information field positions read from a flexible length header, Chin shifts a result of a 1s complement of an index to

select a hash bin. Chin is silent as to indicating that a flexible length header is provided and used to determine forwarding information therefrom. In Chin, the result of the complement of the index is shifted, not the information field positions from the flexible length header.

Chin does not teach or suggest that forwarding information is determined by shifting the information field positions from the flexible length header. Instead, Chin simply provides that the hash table addressing mechanism selects a hash bin by producing the address of the first location in the linked list. Chin does not shift information field positions from the flexible length header.

For similar reasons, Chin fails to teach or suggest, “the first packet portion is read from the flexible length header and the particular packet information is read by shifting information field positions to account for the flexible length of the flexible length header,” as recited in independent claim 5, and fails to teach or suggest, “the particular packet information is read by the means for reading by shifting information field positions to account for the flexible length of the flexible length header,” as recited in independent claim 9.

Accordingly, it is respectfully asserted that Perlman fails to teach or suggest all the recitations of independent claims 1, 5, and 9 and related dependent claims. It is respectfully requested that independent claims 1, 5, and 9 and related dependent claims be allowed.

CONCLUSION:

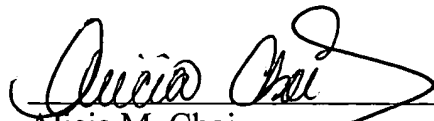
In view of the above, applicant respectfully submits that the claimed invention recites subject matter which is neither disclosed nor suggested in the cited prior art. Applicant further submits that the subject matter is more than sufficient to render the claimed invention unobvious to a person of skill in the art. Applicant therefore respectfully requests that each of claims 1-12 be found allowable and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicant's undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicant respectfully petitions for an appropriate extension of time.

Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,


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